Center on
Social and Economic Dynamics
at BROOKINGS

Social Norms and Public Policy
October 2007

H. Peyton Young

Why do medical practices vary so much between localities within the same state? Why do smoking rates among teens differ across age cohorts? Why do rates of voter turnout vary significantly between electoral districts that have the same socio-economic characteristics? Differences in social norms may help to explain these and other puzzling differences in group behavior that are not readily attributable to differences in income, tastes, and other individual characteristics.

Social norms are rules of conduct that govern interactions among individuals within a reference group. Norm violations often provoke disapproval and loss of esteem, which is the force that holds them in place [1]. Although social norms exert a powerful influence on people's behavior in many arenas, they are difficult to measure directly and are often neglected in the design of policy. Standard policy analysis focuses mainly on individual responses to incentives, such as prices. If individuals are influenced by rules of conduct within their reference groups, however, policies must be designed to induce change at the group level, as well as, at the individual level. This requires a different set of tools than is provided by conventional policy analysis.

To analyze how norm shifts occur, and how policies can be designed to engineer such shifts, one must view individuals as embedded in a larger social system. Two factors of particular importance are: i) the social network, that is, the web of connections that describe who interacts with whom; and ii) the mechanism by which norms of behavior are enforced by the group.

Social norms are pertinent to many areas of policy, particularly health policy. Evidence is accumulating, for example, that obesity is spread in part by social contagion: if someone's close friends become obese it is more likely that they will become obese also. Such effects are observed even after controlling for many factors that friends may have in common, such as income, education, ethnicity, even place of residence. Similarly, there is evidence that teenagers are more likely to take up smoking if their friends take up smoking; and adults are more likely to give it up if their friends give it up. These issues arise in many other areas of social policy, including teenage pregnancy, the willingness to get vaccinated, and the propensity to engage in criminal behavior.

The logic of these situations is that people want to conform to the customary practices and ideals of their reference group because they will be stigmatized if they fail to do so. This may or may not conflict with the choices they would make on their own, but there certainly are situations where perverse norms become entrenched that are quite detrimental to individuals' welfare. Conventional policy interventions, such as taxing harmful practices or dispensing information about their negative consequences, will not have much impact unless they succeed in shifting the equilibrium at the *group* level. This may require targeted interventions that take account of the social network structure. In fact, when such interventions are correctly designed, they can sometimes "tip" group behavior into a new equilibrium even more rapidly than if norms were not a factor. Policy can use group norms to its advantage.

Agent-based models are especially well-suited to study these issues. Firstly, they are dynamic, and can simulate behavior both in and out of equilibrium. Secondly, the agents who populate the models are fully heterogeneous: they have a range of personal traits, differ in the amount of information they possess, have different positions within the social network, and so forth. The models are also explicit about the ways agents interact and respond to information, which may be highly rational, merely adaptive, or somewhere in-between. Recent advances in stochastic dynamical systems theory, some of them pioneered by members of the Brookings Center on Social and Economic Dynamics, allow researchers to study the long-run dynamical behavior of such models with great accuracy [2].

This general approach can be used to analyze such questions as how quickly norm shifts can spread through a society, and what types of interventions are most likely to trigger such shifts. The answers depend crucially on how agents use the information generated by other agents, and also on the topology of the social network [3, 4]. Empirical applications include a study of how new agricultural technologies diffuse [5], and how shifts in smoking behavior can be induced by targeted interventions [6].

Agent-based models also provide insights into the *qualitative* effects of social norms on group behavior. One of the most interesting is that norms often have a 'patchy' look; that is, they induce overly uniform behavior within a given community (in spite of individual differences among its members), yet they may also induce very different behaviors among communities (even though these communities are quite similar in a cross-sectional sense). This is known as the *local conformity/global diversity effect* [2].

Empirical support for this proposition can be found in a number of domains, including strong regional differences in medical treatments for a given condition combined with an excessive uniformity of practice within a given region [7]. This has implications for health policy, because it suggests that powerful professional norms can get in the way of delivering efficient medical care. It is therefore crucial to understand what holds such norms in place and how norms can be altered by targeted forms of intervention. This is one of many examples showing how policy analysis can benefit from models that incorporate social norms.

1. H. P. Young, "Social Norms," forthcoming in *The New Palgrave Dictionary of Economics, 2nd edition*. London: Macmillan.

2. H. P. Young, *Individual Strategy and Social Structure: An Evolutionary Theory of Institutions.* Princeton University Press, 1998.

3. H. P. Young, "The Diffusion of Innovations in Social Networks," in Lawrence E. Blume and Steven N. Durlauf, eds. *The Economy as a Complex Evolving System, vol. III.* , Oxford University Press, 2003.

4. H. P. Young, "Innovation Diffusion in Heterogeneous Populations: Contagion, Social Influence, and Social Learning." CSED Working Paper #51. October, 2007.
5. H. P. Young, "The Spread of Innovations through Social Learning," CSED Working Paper #43, December ,2005.

6. *Social Influences and Smoking Behavior: Final Report to The American Legacy Foundation.* February, 2006. www.brookings.edu/dynamics/publications.aspx

7. Mary A. Burke, Gary Fournier, and Kislaya Prasad, “Physician Social Networks and Geographical Variation in Medical Care.” CSED Working Paper #33. July, 2003.